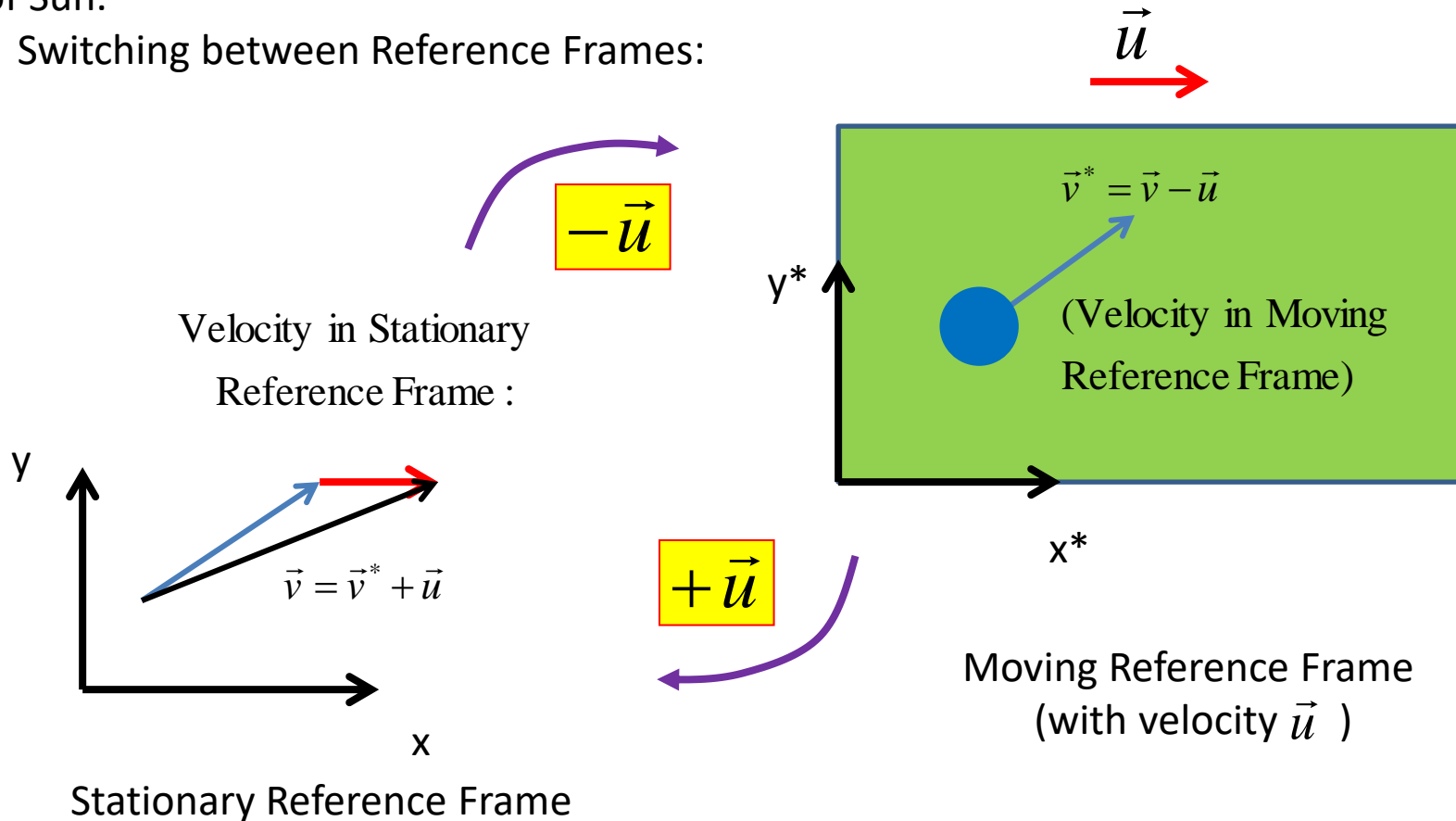


# Reference Frame

- In order to describe a motion , we need to specify the **Reference Frame**, i.e. Coordinate System at each moment of time.
- **Examples:** Reference Frame of a moving train, of water in river, of a person on a bench, of Sun.
- Switching between Reference Frames:



# Homework

River flows with speed  $v_r=2\text{m/s}$ . A fisherman uses his boat to get to a village situated at distance  $d=2\text{ km}$  down the river, and returns back to his home. During the whole trip, the speed of the boat is  $V=3\text{m/s}$  with respect to the water. Find the total time of the two-way trip. Does river flow make it longer or shorter?

